

WHAT IS CLAIMED IS:

1. A broadcast program search method in a digital broadcasting radio receiving apparatus which comprises a DAB receiver, a microcomputer controller which includes a CPU and a memory and controls the DAB receiver, an input unit operated by a user, a display unit for checking the state of reception, a program which is stored in the memory and controls the input unit, the display unit, and the DAB receiver, and a DAB control program which contains a broadcast program search program and controls the DAB receiver, comprising:

the step of activating the broadcast program search program and switching to a broadcast program search mode;

the step of selecting a search item and setting the search condition of the search item by an operation by a user;

the search step of performing search by the search item selected by the user on the basis of the selection of the search item and the set search condition of the search item;

the channel selection step of selecting a channel on the basis of the search result in the search step; and

the step of checking whether to again perform search if the search is unsuccessful, repeating the setting under the set search condition if search is to be again

performed, and terminating the broadcast program search program if no search is to be again performed.

2. A method according to claim 1, wherein the step of selecting a search item and setting the search
5 condition of the search item comprises the steps of:

initializing a search condition list and a search result list; and

changing the program type, service label, and service component label, as search items, of a broadcast program
10 by a select key of the input unit, setting the search condition of each search item by a setting key, interrupting the setting by an interrupt key, or storing the set search item and search condition in a search condition list by a decision key and terminating the step.

15 3. A method according to claim 1, wherein the search step comprises the steps of:

checking whether to sequentially perform PTY search for searching for a program type such as news, music, or sport, service label search for searching for a label
20 attached to a broadcast program, and service component label search for searching for a label attached to each different broadcast content of a broadcast program, by referring to the search condition list, and, if search is to be performed, sequentially executing these search
25 routines;

bypassing a search routine not to be performed, if the search routines are not to be sequentially performed; and

removing identical results in a search result list
5 after a search routine is completed, and terminating the search.

4. A method according to claim 1, wherein the channel selection step comprises the steps of:

setting a number indicating a channel selection order,
10 a channel selection number indicating the number of information to be selected, and a selected channel listening time;

terminating the channel selection if a search result list records only one broadcast program;

15 checking whether a user has issued a selected channel determination request if the search result list records more than one broadcast program, and terminating the channel selection if the user has issued the selected channel determination request; and

20 checking whether the selected channel listening time has elapsed if the user has not issued a selected channel determination request, and, if the selected channel listening time has elapsed, adding 1 to the channel selection order number and selecting the channels of
25 broadcast programs in the search result list in turn.

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5. A broadcast program search method in a digital broadcasting radio receiving apparatus which comprises a DAB receiver, a microcomputer controller which includes a CPU and a memory and controls the DAB receiver, an input unit operated by a user, a display unit for checking the state of reception, a program which is stored in the memory and controls the input unit, the display unit, and the DAB receiver, and a DAB control program which contains a broadcast program search program and controls the DAB receiver, comprising the steps of:

searching broadcast program information on a broadcast wave currently being received for program information concerning a PTY, a service label, and a service component label, during regular reception, by using a search routine for forming a program information storage list concerning PTY search, a search routine for forming a program information storage list concerning service label search, and a search routine for forming a program information storage list concerning service component label search; and

referring to data of the program information storage lists formed by the search routines for forming the program information storage lists, in order to compare the data with search conditions, by using a PTY search routine, a service label search routine, and a service component

search routine, thereby rapidly receiving a broadcast program desired by a user.

6. A method according to claim 1, wherein

the step of selecting a search item and setting the
5 search condition of the search item comprises the steps
of:

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        storing the set contents of the search condition by a
search condition set content storage write key;

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        reading out the set contents of the set condition by
10    a search condition set content storage read key; and

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writing the search condition in a search condition storage list by the search condition set content storage write key, and writing the contents of the search condition storage list into a search condition list by the search condition set content storage read key, and

if there are a plurality of search condition set contents to be stored, a user stores a plurality of search conditions by the search condition set content write key, and searches for a desired broadcast program by setting
20 desired search conditions at once by the search condition set content storage read key, thereby improving the efficiency of search condition setting.

7. A computer-readable storage medium recording a
broadcast program search program for a digital
25 broadcasting radio receiving apparatus which comprises a

DAB receiver, a microcomputer controller which includes a CPU and a memory and controls the DAB receiver, an input unit operated by a user, a display unit for checking the state of reception, a program which is stored in the memory and controls the input unit, the display unit, and the DAB receiver, and a DAB control program which contains a broadcast program search program and controls the DAB receiver, comprising:

the process of activating the broadcast program search program and switching to a broadcast program search mode;

the process of selecting a search item and setting the search condition of the search item by an operation by a user;

the search process of performing search by the search item selected by the user on the basis of the selection of the search item and the set search condition of the search item;

the channel selection process of selecting a channel on the basis of the search result in the search process; and

the process of checking whether to again perform search if the search is unsuccessful, repeating the setting under the set search condition if search is to be again performed, and terminating the broadcast program

search program if no search is to be again performed.

8. A medium according to claim 7, wherein the process of selecting a search item and setting the search condition of the search item comprises the processes of:

5 initializing a search condition list and a search result list; and

 changing the program type, service label, and service component label, as search items, of a broadcast program by a select key of the input unit, setting the search
10 condition of each search item by a setting key, interrupting the setting by an interrupt key, or storing the set search item and search condition in a search condition list by a decision key and terminating the process.

15 9. A medium according to claim 7, wherein the search process comprises the processes of:

 checking whether to sequentially perform PTY search for searching for a program type such as news, music, or sport, service label search for searching for a label
20 attached to a broadcast program, and service component label search for searching for a label attached to each different broadcast content of a broadcast program, by referring to the search condition list, and, if search is to be performed, sequentially executing these search
25 routines;

bypassing a search routine not to be performed, if the search routines are not to be sequentially performed; and

removing identical results in a search result list
5 after a search routine is completed, and terminating the search.

10. A medium according to claim 7, wherein the channel selection process comprises the processes of:

setting a number indicating a channel selection order,
10 a channel selection number indicating the number of information to be selected, and a selected channel listening time;

terminating the channel selection if a search result list records only one broadcast program;

15 checking whether a user has issued a selected channel determination request if the search result list records more than one broadcast program, and terminating the channel selection if the user has issued the selected channel determination request; and

20 checking whether the selected channel listening time has elapsed if the user has not issued a selected channel determination request, and if the selected channel listening time has elapsed, adding 1 to the channel selection order number and selecting the channels of
25 broadcast programs in the search result list in turn.

11. A computer-readable storage medium recording a broadcast program search program for a digital broadcasting radio receiving apparatus which comprises a DAB receiver, a microcomputer controller which includes a CPU and a memory and controls the DAB receiver, an input unit operated by a user, a display unit for checking the state of reception, a program which is stored in the memory and controls the input unit, the display unit, and the DAB receiver, and a DAB control program which contains a broadcast program search program and controls the DAB receiver, comprising the processes of:

searching broadcast program information on a broadcast wave currently being received for program information concerning a PTY, a service label, and a service component label, during regular reception, by using a search routine for forming a program information storage list concerning PTY search, a search routine for forming a program information storage list concerning service label search, and a search routine for forming a program information storage list concerning service component label search; and

referring to data of the program information storage lists formed by the search routines for forming the program information storage lists, in order to compare the data with search conditions, by using a PTY search routine,

a service label search routine, and a service component search routine, thereby rapidly receiving a broadcast program desired by a user.

12. A medium according to claim 7, wherein

5 the process of selecting a search item and setting the search condition of the search item comprises the processes of:

storing the set contents of the search condition by a search condition set content storage write key;

10 reading out the set contents of the set condition by a search condition set content storage read key; and

writing the search condition in a search condition storage list by the search condition set content storage write key, and writing the contents of the search
15 condition storage list into a search condition list by the search condition set content storage read key, and

if there are a plurality of search condition set content write keys, a user stores a plurality of search conditions by the search condition set content write keys,
20 and searches for a desired broadcast program by setting desired search conditions at once by the search condition set content storage read key, thereby improving the efficiency of search condition setting.

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